

In the Claims:

Please amend claims 1, 7, 13, 52, 64, 87, 92, 93, 95, 96 and 98 as shown below.

1. (Currently Amended): An intervertebral implant comprising:
 - a first part that is adapted to mate with a first vertebra;
 - a second part that is adapted to mate with a second vertebra; and
 - a non-symmetrical third part that mates with the first part and the second part, with the third part having a first curved surface that mates with the first part and oriented about a first axis, and a second curved surface that mates with the second part and oriented about a second axis and with the first axis of the first curved surface directed oppositely to and provided substantially perpendicular to the second axis of the second curved surface.
2. (Previously Presented): The implant of claim 1 wherein the first part has a first socket that receives the first curved surface and the second part has a second socket that receives the second curved surface.
3. (Original): The implant of claim 1 wherein the first part has a first keel that is adapted to be inserted in a first vertebra and the second part has a second keel that is adapted to be inserted in a second vertebra.
4. (Original): The implant of claim 1 wherein the first curved surface allows the implant to move between anterior and posterior directions and the second curved surface allows the implant to move laterally.
5. (Original): The implant of claim 3 wherein the first and second keels are about parallel to a first axis of movement of one of the first part and the second part about the third part and the first and second keels are about perpendicular to a second axis of movement of the other of the first part and the second part about the third part.

6. (Previously Presented): The implant of claim 5 wherein the first part has a first socket that receives the first curved surface and the second part has a second socket that receives the second curved surface.

7. (Currently Amended): An intervertebral implant comprising:

- a first part that is adapted to mate with a first vertebra;
- a second part that is adapted to mate with a second vertebra; and
- a non-symmetrical third part that mates with the first part and the second part with the third part further comprising:
 - a first convex surface that mates with the first part configured to limit movement of the first part between a first and second direction about a first axis; and
 - a second convex surface that mates with the second part configured to limit movement of the second part between a third and fourth direction about a second axis, and with the first convex surface directed oppositely to and provided wherein the first and second axes are substantially perpendicular to one another the second convex surface.

8. (Original): The implant of claim 7 wherein:
the first part has a first socket that receives the first convex surface and the second part has a second socket that receives the second convex surface.

9. (Original): The implant of claim 7 wherein the first part has a first keel that is adapted to be inserted in a first vertebra and the second part has a second keel that is adapted to be inserted in a second vertebra.

10. (Previously Presented): The implant of claim 7 wherein the first and second directions are anterior and posterior directions and the third and fourth directions are lateral directions.

11. (Original): The implant of claim 9 wherein the first and second keels are about parallel to a first axis of movement of one of the first part and the second part about the third part and the first and second keels are about perpendicular to a second axis of movement of the other of the first part and the second part about the third part.

12. (Original): The implant of claim 11 wherein:

the first part has a first socket that receives the first convex surface and the second part has a second socket that receives the second convex surface.

13. (Currently Amended): An intervertebral implant comprising:

a first plate adapted to mate to a first vertebral body, the first plate including a first socket having a first interior surface wherein the first interior surface has a curved shape about a first axis;

a second plate adapted to mate to a second vertebral body, the second plate including a second socket opposed to the first socket, the second socket having a second interior surface, wherein the second interior surface has a curved shape about a second axis oriented substantially perpendicular to the first axis of the curved shape of the first interior surface; and

a non-symmetrical spacer with a first side that fits adjacent to the curved shape of the first interior surface of the first socket and a second side that fits adjacent to the curved shape of the second interior surface of the second socket.

14. (Original): The implant of claim 13 including at least one of the first and second plates including a keel extending therefrom and adapted to engage a vertebral body.

15. (Original): The implant of claim 13 including a first keel extending from the first plate and adapted to engage a first vertebral body, and a second keel extending from the second plate and adapted to engage a second vertebral body.

16. (Original): The implant of claim 13 wherein the first plate has a first side and a second side, wherein the first side faces the second plate and the second side contacts a surface of the first vertebral body.
17. (Original): The implant of claim 16 wherein the first side of the first plate and the second side of the first plate are parallel to each other.
18. (Original): The implant of claim 16 wherein the first side of the first plate and the second side of the first plate are not parallel to each other
19. (Original): The implant of claim 13 wherein the second plate has a first side and a second side and the first side of the second plate faces the first plate and the second side of the second plate contacts a surface of the second vertebral body.
20. (Original): The implant of claim 19 wherein the first side of the second plate and the second side of the second plate are parallel to each other.
21. (Original): The implant of claim 19 wherein the first side of the second plate and the second side of the second plate are not parallel to each other.
22. (Original): The implant of claim 13 wherein the first socket of the first plate has first and second side walls that are parallel to each other.
23. (Original): The implant of claim 13 wherein the second socket of the second plate has first and second side walls that are parallel to each other.
24. (Previously Presented): The implant of claim 13 wherein the first and second side walls of the first socket of the first plate are parallel to each other and the second socket of the second plate has first and

second side walls that are parallel to each other and further wherein the first and second side walls of the first plate are substantially perpendicular to the first and second side walls of the second plate.

25. (Previously Presented): The implant of claim 13 wherein the implant is assembled so that the spacer is positioned in the first socket of the first plate and the second socket of the second plate.

26. (Original): The implant of claim 13 wherein the first side of the spacer is curved and the second side of the spacer is curved.

27. (Currently Amended): The implant of claim 26 wherein the first curved side is oriented substantially perpendicular to the second curved side.

28. (Original): The implant of claim 13 wherein the first side of the spacer is convex and the second side of the spacer is convex.

29. (Original): The implant of claim 28 wherein the convex first side is oriented perpendicular to the convex second side.

30 - 32. (Cancelled)

33. (Previously Presented): The implant of claim 87 including at least one of the first and second plates including a keel extending therefrom and adapted to engage a vertebral body.

34. (Previously Presented): The implant of claim 87 including a first keel extending from the first plate and adapted to engage the first vertebral body, and a second keel extending from the second plate and adapted to engage the second vertebral body.

35. (Previously Presented): The implant of claim 87 wherein the first plate has a first side and a second side, wherein the first side faces the second plate and the second side contacts a surface of the first vertebral body.

36. (Original): The implant of claim 35 wherein the first side of the first plate and the second side of the first plate are parallel to each other.

37. (Original): The implant of claim 35 wherein the first side of the first plate and the second side of the first plate are not parallel to each other.

38. (Cancelled)

39. (Previously Presented): The implant of claim 87 wherein the first curved interior surface of the first plate has a first side wall and a second side wall, wherein the first and second side walls limit movement of the first plate in a desired direction with respect to the spacer.

40. (Previously Presented): The implant of claim 39 wherein the first and second side walls of the first plate are parallel to each other.

41. (Previously Presented): The implant of claim 35 wherein the first curved interior surface of the first plate has first and second side walls that are substantially perpendicular to the second side of the first plate.

42. (Previously Presented): The implant of claim 40 wherein the second curved interior surface of the second plate has first and second side walls that are substantially perpendicular to the first and second side walls of the first plate.

43. (Previously Presented): The implant of claim 87 wherein the first curved interior surface of the first plate has first and second side walls that are parallel to each other and the first and second side walls of the second curved interior surface are parallel to each other and further wherein the first and second side walls of the first plate are substantially perpendicular to the first and second side walls of the second plate.

44. (Cancelled)

45. (Previously Presented): The implant of claim 87 wherein the second plate has a first side and a second side and the first side of the second plate faces the first plate and the second side of the second plate contacts a surface of the second vertebral body.

46. (Original): The implant of claim 45 wherein the first side of the second plate and the second side of the second plate are parallel to each other.

47. (Original): The implant of claim 45 wherein the first side of the second plate and the second side of the second plate are not parallel to each other.

48. (Cancelled)

49. (Previously Presented): The implant of claim 87 wherein the first convex surface of the spacer is substantially perpendicular to the second convex surface of the spacer.

50. (Cancelled)

51. (Previously Presented): The implant of claim 87 wherein the first convex surface is oriented to lie substantially perpendicular to the second convex surface.

52. (Currently Amended): An intervertebral implant comprising:
- a first plate adapted to mate to a first vertebral body;
 - a second plate adapted to mate to a second vertebral body; and
 - a non-symmetrical spacer with a first convex side about a first axis and a second convex side about a second axis wherein the first axis of the first convex side is substantially perpendicular to the second axis of the second convex side, wherein first convex side limits movement of the first plate to flexion and extension and the second convex side limits movement of the second plate to lateral bending.
53. (Original): The implant of claim 52 including at least one of the first and second plates including a keel extending therefrom and adapted to engage a vertebral body.
54. (Previously Presented): The implant of claim 52 including a first keel extending from the first plate and adapted to engage the first vertebral body, and a second keel extending from the second plate and adapted to engage the second vertebral body.
55. (Original): The implant of claim 52 wherein the first plate has a first side and a second side, wherein the first side faces the second plate and the second side contacts a surface of the first vertebral body.
56. (Original): The implant of claim 52 wherein a socket of the first plate has first and second side walls that are parallel to each other.
57. (Previously Presented): The implant of claim 55 wherein a first socket of the first plate has first and second side walls that are substantially perpendicular to the first side of the first plate.

58. (Previously Presented): The implant of claim 57 wherein the first socket of the first plate has a curved third side between the first and second side walls.

59. (Original): The implant of claim 52 wherein the second plate has a first side and a second side, wherein the first side faces the first plate and the second side contacts a surface of the second vertebral body.

60. (Original): The implant of claim 59 wherein the first side of the second plate and the second side of the second plate are parallel to each other.

61. (Original): The implant of claim 59 wherein the first side of the second plate and the second side of the second plate are not parallel to each other.

62. (Previously Presented): The implant of claim 52 wherein a second socket of the second plate has first and second side walls that are parallel to each other.

63. (Previously Presented): The implant of claim 59 wherein a socket of the second plate has first and second side walls that are substantially perpendicular to the first side of the second plate.

64. (Currently Amended): An intervertebral implant comprising:
a first plate adapted to mate with a first vertebra;
a second plate adapted to mate with a second vertebra;
a spacer between the first and the second plates along a transverse plane;
the spacer non-symmetrical about the transverse plane and having first and second curved surfaces that are at an angle to each other with the first curved surface mated with the first plate and the second curved surface mated with the second plate.

65. (Original): The implant of claim 64 wherein the curved surfaces are cylindrical.
66. (Original): The implant of claim 64 wherein the curved surfaces are convex.
67. (Previously Presented): The implant of claim 64 wherein the first and second plates each have a curved surface that mates with a respective curved surface of the spacer.
68. (Previously Presented): The implant of claim 65 wherein the first and second plates each have a cylindrical surface that mates with a respective cylindrical surface of the spacer.
69. (Previously Presented): The implant of claim 66 wherein the first and second plates each have a concave surface that mates with a respective convex surface of the spacer.
70. (Original): The implant of claim 64 wherein the first curved surface has a first axis and the second curved surface has a second axis, and the first axis and the second axis are at an angle to each other.
71. (Original): The implant of claim 64 wherein the first curved surface has a first axis and the second curved surface has a second axis, and the first axis and the second axis are at about perpendicular to each other.
72. (Original): An intervertebral implant comprising:
a first plate adapted to mate with a first vertebra;
a second plate adapted to mate with a second vertebra;
a spacer placed between the first and the second plates; and
wherein said spacer in conjunction with the first plate allows rotational motion about a first axis and blocks motion about a second axis, and the spacer in conjunction with the second plate allows rotational motion about the second axis and blocks motion about the first axis.

73. (Original): The implant of claim 72 wherein said first axis is perpendicular to the second axis.

74. (Original): The implant of claim 72 wherein the implant can rotate about a third axis that is at an angle to the first axis and to the second axis.

75 - 76. (Cancelled)

77. (Original): The implant of claim 2 wherein at least one of the sockets has one or more crests.

78. (Original): The implant of claim 2 wherein at least one of the sockets has one or more crests to allow for twisting motion between the first part and the second part.

79. (Original): The implant of claim 8 wherein at least one of the sockets has one or more crests.

80. (Original): The implant of claim 8 wherein at least one of the sockets has one or more crests to allow for twisting motion between the first part and the second part.

81. (Original): The implant of claim 13 wherein at least one of the sockets has one or more crests.

82. (Previously Presented): The implant of claim 13 wherein at least one of the sockets has one or more crests to allow for twisting motion between the first plate and the second plate.

83. (Previously Presented): The implant of claim 1 wherein a material of the third part is selected from the group consisting of polyetheretherketone, polyetherketoneketone, polyaryletheretherketone, polyetherketone, polyetherketoneetherketone-ketone, and polyetheretherketoneketone.

84. (Previously Presented): The implant of claim 7 wherein a material of the third part is selected from the group consisting of polyetheretherketone, polyetherketoneketone, polyaryletheretherketone, polyetherketone, polyetherketoneetherketone-ketone, and polyetheretherketoneketone.

85. (Previously Presented): The implant of claim 13 wherein a material of the spacer is selected from the group consisting of polyetheretherketone, polyetherketoneketone, polyaryletheretherketone, polyetherketone, polyetherketoneetherketone-ketone, and polyetheretherketoneketone.

86. (Previously Presented): The implant of claim 87 wherein a material of the spacer is selected from the group consisting of polyetheretherketone, polyetherketoneketone, polyaryletheretherketone, polyetherketone, polyetherketoneetherketone-ketone, and polyetheretherketoneketone.

87. (Currently Amended): An intervertebral implant comprising:

a first plate including a first curved interior surface extending between a first end and a second end of the first plate;

a second plate including a second curved interior surface extending between a third end and a fourth end of the second plate, wherein the third and fourth ends are oriented substantially perpendicular to the first and second ends; and

a spacer positioned between the first plate and the second plate substantially along a transverse plane, the spacer having a non-symmetrical configuration [[along]] about the transverse plane, wherein the spacer includes a first convex surface in contact with the first curved interior surface and a second convex surface in contact with the second curved interior surface.

88. (Previously Presented): The implant of claim 52 wherein the first plate is adapted to mate to an upper vertebral body.

89. (Previously Presented): The implant of claim 88 wherein the second plate is adapted to mate to a lower vertebral body.

90. (Previously Presented): The implant of claim 52 wherein the first plate is adapted to mate to a lower vertebral body.

91. (Previously Presented): The implant of claim 90 wherein the second plate is adapted to mate to an upper vertebral body.

92. (Currently Amended): An intervertebral implant comprising:
a first plate adapted to mate with a first vertebra, the first plate further comprising:
 a first socket therein having a first concave surface;
 a first wall adjacent to the first concave surface;
 a second wall adjacent to the first concave surface;.
a second plate adapted to mate with a second vertebra, the second plate further comprising:
 a second socket therein having a second concave surface, the second socket opposed to the first socket, wherein the second concave surface is oriented substantially perpendicular to the first concave surface;
 a third wall adjacent to the second concave surface;
 a fourth wall adjacent to second concave surface, wherein the third and fourth walls are substantially perpendicular to the first and second walls;
 a non-symmetrical spacer having a first convex surface to be received in the first socket and a second convex surface to be received in the second socket, wherein the first socket limits movement of the first plate between a first and second direction and the second socket limits movement of the second plate between a third and fourth direction.

93. (Currently Amended): An intervertebral implant having an anterior side, a posterior side, a right lateral side and a left lateral side, the implant comprising: a non-symmetrical spacer between a first plate and a second plate, the spacer having a first convex surface oriented between the anterior side and the posterior side and mated with the first plate, the spacer having a second convex surface opposed to the first convex surface and mated with the second plate, wherein the second convex surface is oriented between the right lateral side and the left lateral side.

94. (Previously Presented) An intervertebral implant having an anterior side, a posterior side, a right lateral side and a left lateral side, the implant comprising: a spacer between a first plate and a second plate, the spacer having a first convex surface oriented such that the first plate is limited to rotating about a first axis intersecting the right and left lateral sides, the spacer further having a second convex surface opposed to the first convex surface oriented such that the second plate is limited to rotating about a second axis intersecting the anterior and posterior sides.

95. (Currently Amended): An intervertebral implant comprising:
a first part that is adapted to mate with a first vertebral body;
a second part that is adapted to mate with a second vertebral body; and
a third part that mates with the first part and the second part, with the third part having a first curved surface adapted to mate with the first part and provided about a first axis, the first curved surface to allow the implant to move substantially between anterior and posterior directions and a second curved surface adapted to mate with the second part and provided about a second axis, the second curved surface to allow the implant to move substantially laterally, wherein the first axis and the second axis are oriented at an angle with respect to one another.

96. (Currently Amended) : The implant of claim 95 wherein the first part and the second part are rotatable about a third axis substantially perpendicular to the first and second axes. curved surface allows

~~the implant to move only substantially between anterior and posterior directions and the second curved surface allows the implant to move only substantially laterally.~~

97. (Previously Presented): The implant of claim 95 wherein the first axis is substantially perpendicular to the second axis.

98. (Currently Amended): An intervertebral implant comprising:

- a first part that is adapted to mate with a first vertebra;
- a second part that is adapted to mate with a second vertebra; and
- a non-symmetrical third part that mates with the first part and the second part with the third part further comprising:
 - a first surface that mates with the first part configured to limit movement of the first part between a posterior and anterior direction; and
 - a second convex surface that mates with the second part configured to limit movement of the second part between lateral directions.